

# Finland's Great Nuclear Gamble

*Media Statement by Gordon Edwards*

*Helsinki, January 14, 2010*

I will first make some comments about the recent STUK study on childhood cancers around nuclear power plants, and then I will talk about Finland's Great Nuclear Gamble.

## ***STUK Study***

I have some concerns about the recent STUK study dealing with cancer and leukemia among children living near nuclear plants in Finland.

As a mathematician, I am disappointed that an unreliable study such as this has been used to misinform the Finnish population on the important subject of possible health dangers.

For anyone who is knowledgeable about statistical methodology, it is clear that the STUK study was a waste of money before it even started, because it was incapable of delivering a meaningful scientific result.

In fact, the most scientifically valid conclusion in the report is the statement by the authors that 'the small sample size limits the strength of conclusions.' This is an indirect way of saying that the numbers of children in the study are far too small to have any statistical significance.

Allow me to explain.

The German KiKK study found a significant increase in childhood leukemia – more than a doubling -- among children less than five years old, living less than 5 kilometers away from one of the 16 nuclear power plants in Germany. German children who were older than 5 years, and those who lived more than 5 km away, showed no such increase.

But the STUK study looks only at children under 15 years of age living within 15 kilometers of one of the Finnish nuclear plants. Obviously, most of these children are either too old or too far away from the nuclear plant to show the results that were found in Germany. The authors of the STUK report give no explanation as to why they chose to dilute their sample with many children that are not relevant to the question.

The German study was a also very large study, examining 593 children under five years of age and an additional 1766 children as controls. By contrast, there only seem to be about 100 people living in the 5 kilometer zone of the Finnish nuclear plants, among them perhaps 20 children.

This is too small a number to arrive at any significant results. With such a small number of people, you could not even prove that cigarette smoking poses any dangers.

## ***Finland's Great Nuclear Gamble***

The present Finnish government seems to regard nuclear power as the main hope for Finland's future economic prosperity – perhaps the nuclear industry is seen as the natural successor to Nokia, which brought such prosperity to Finland in the past.

Like some governments in Canada -- for example, the present government of Saskatchewan -- the Finnish government seems to think that every aspect of the nuclear enterprise – from uranium mining, to nuclear reactors, to radioactive waste disposal – ought to be located in Finland and that Finns should take advantage of the global nuclear renaissance that we are told is 'just around the corner'.

So far, however, the nuclear renaissance is not really happening – certainly not at all to the degree that was foreseen just a few years ago. In North America, there have been many cancellations and delays of new nuclear projects.

In Canada, which is the world's largest producer and exporter of uranium, two of the ten provinces have permanently banned uranium mining from ever taking place. In Quebec, where I come from, medical doctors have threatened to resign their positions unless the government of Quebec bans uranium mining in that province. Their actions of these doctors is based on health concerns for the population as well as for the workers.

In Ontario, where there are 20 nuclear reactors, three new nuclear plants have been cancelled after being announced just three years ago, and two more new plants have been indefinitely delayed.

Increasingly, energy studies are showing that nuclear power cannot possibly solve the climate change problem, and that it can make only a rather small contribution for the next 40 years. These considerations seriously undermine the nuclear industry's main argument for predicting a huge nuclear renaissance.

If the government here in Finland is indeed on the verge of gambling the future of Finland on the success of a nuclear renaissance, then I believe all Finns must become concerned not just in the individual projects, but in the whole picture.

While everyone has been informed about the advantages of nuclear power and uranium mining projects, most people are not sufficiently knowledgeable about the long-term disadvantages of these facilities. During my visits to Finnish communities over the last few days, it has become abundantly clear that there is a real need for public education on these subjects. At the moment, insufficient understanding is having a detrimental social effect as communities become deeply and bitterly divided when in fact they should be coming together as never before to better understand what the future might have in store, for the benefit of all.

Here are some of the questions that Finns should be asking themselves:

1. Why are most knowledgeable financial people in the world – the insurance companies and bankers – unwilling to invest in nuclear power unless there are massive public subsidies to minimize their financial risks?
2. Why are there still so many construction errors, massive cost overruns, and unresolved safety problems with nuclear power plants, such as those that have plagued the French EPR reactor now under construction at Olkiluoto?
3. Why is it that the United States of America has tried eight times to build an underground repository for high-level nuclear waste, and yet has failed eight times, despite spending tens of billions of dollars?
4. What will Finland be doing with the enormous quantities of radioactive sand left over from uranium mining, sand which contains much more toxic radioactive materials (such as radium, polonium, and radon) than the uranium which is extracted by the mining company?
5. What is the precise technology and the estimated cost of dismantling the radioactive structures of nuclear plants, and where will the thousands of truckloads of radioactive rubble from each plant be stored?
6. What assurance do Finnish communities have that they will not be permanently burdened with the significant amounts of low-level and medium-level radioactive wastes produced by a nuclear power plant, over the thousands of years in which they will remain dangerous?
7. Why is the Finnish government considering proposals for some of the largest nuclear power plants ever built, given the fact that Finland has a population of only six million people and has no need for such large power plants?